The Effect of Instructor Gender during a Group-Based Fitness Class on Psychosocial Variables among Male College Students

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Abstract

Physical activity levels among male adolescents significantly decrease during the transition from high school to college. It is important to better understand the role of psychosocial variables of physical activity that may relate to this decrease in physical activity, such as motivation, self-efficacy, and enjoyment. Group-based physical activity classes may help increase physical activity levels among male college students; however, much of the research has focused on female participants. The purpose of the present study is to investigate the effect of participating in a group fitness class on college male motivation, self-efficacy, and enjoyment of physical activity and whether the gender of the instructor contributes to the effect. The role of social physique anxiety was also examined. Male college students (N=35) participated in a single, 60-minute strength-based group fitness class and were randomized to either a male or female instructor led class. Participants completed psychosocial variable measures directly before and after engaging in the sixty-minute class. Physical activity enjoyment and social physique anxiety were the only psychosocial variables that were significantly impacted from pre- to post class participation, regardless of group. The instructor gender effect was not significant for change in motivation, self-efficacy, enjoyment, or social physique anxiety. Participating in a group fitness class may increase physical activity enjoyment levels and decrease social physique anxiety levels in male college students. Further research is needed to determine if these changes are sustainable over time and which aspects of the group fitness class contributed most to these increases.

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Review of Literature

Introduction

Transitioning from high school to college can be an exciting time for adolescents, but can also put students at risk for developing unhealthy behaviors (Nelson, Story, Larson, Neumark-Sztainer, & Lytle, 2008). Unhealthy behaviors occur more often among college students than those who delay college or choose not to go (Gordon-Larsen, Adair, Nelson, Popkin, 2004), putting college students at particularly high risk. Increases in weight, BMI, and waist circumference tend to occur during the first year of college (Pullman et al., 2009). These unhealthy behaviors could be formed and carry on into adulthood if they are not curbed during college years.

One unhealthy behavior that is linked to obesity is physical inactivity (U.S. Department of Health and Human Services, 2018). Approximately 66% of high school students meet the minimum requirements for vigorous physical activity, while only 44% of college students meet this same requirement (Bray & Born, 2004). In addition to obesity, meeting the physical activity guidelines is also related to a decreased risk of negative health issues, such as cardiovascular disease and diabetes (U.S. Department of Health and Human Services, 2018).

College-aged students may be particularly susceptible to physical inactivity given they are in a transitional part of their lives (Buckworth & Nigg, 2004). This new developmental period, coined “emerging adulthood” (Munsey, 2006) is a time of identity exploration, instability, self-focus, and possibility for adults 18-25. Decreases in moderate and vigorous physical activity, as well as increases in sedentary activity, have

been documented due to this life transition, which could put these individuals at risk for various negative health consequences, such as cardiovascular disease, diabetes, and osteoporosis (U.S. Department of Health and Human Services, 2018). The new environment of college, including the plethora of food choices, an exciting new social scene, and higher academic expectation can create significant distractions and demands on college students who are already limited on time. Sedentary studying, computer time, and alcohol consumption increase, while aerobic activity and sleep decreases during this transition (Pullman et al., 2009).

Lack of internal regulation and motivation may be responsible for the decrease in physical activity observed in this age group (Huang et al., 2003). Due to this new independence, college students may now require more internal regulation to prioritize physical activity and healthy behaviors. Additionally, modeling of appropriate physical activity behaviors and physical activity self-efficacy have been shown to decrease during this transitional period (Van Dyck, De Bourdeaudhuij, Deliens, & Deforche, 2015). Increasing physical activity can help create positive health behaviors that individuals can continue into adulthood (Huang et al., 2003). Better understanding key factors that increase motivation and self-efficacy for physical activity may lead to improvements in physical activity participation in this population. Given the developmental differences present in this population, with unique components of both adolescents and adults, research is needed to investigate the impact of physical activity and motivation during this period, particularly in males.

In a recent study of college students, only 52% of males were at a healthy weight range, compared to 78% of females at the same university (Yahia, Wang, Rapley, & Dey,

2016). Molina-Garcia, Queralt, Castillo, and Sallis (2015) noted that male physical activity participation during the transition from high school to college dropped by 21%, with insignificant changes in the female population. Men, college-aged in particular, are both intrinsically and extrinsically motivated to participate in physical activity (Allison, Dwyer, Goldenberg, & Fein, 2005; Ashton et al., 2015). Examples of factors include enjoyment, challenge, skill development, socialization, maintaining attractiveness, and psychological benefits (Allison, Dwyer, Goldenberg, & Fein, 2005; Ashton et al., 2015). Self-determined, or intrinsic motivation, has been linked to physical activity in male college students, so focusing on enjoyment and challenge could be particularly relevant to this group (Lauderdale, Yli-Piipari, Irwin, & Layne, 2015). Given the differences in male and female experiences in college, investigating them separately may produce the best understanding of increasing physical activity levels.

The Gender Perspective

Social cognitive theory of gender development and differentiation emphasizes the salience of gender in virtually every aspect of an individual's experience (Bandura & Bussey, 1999). This experience of gender is different for everyone and results from various social, psychological, and environmental experiences throughout life (Bandura & Bussey, 1999). The theory also posits that "gender conceptions are constructed from the complex mix of experiences and how they operate in concert with motivational and self-regulatory mechanisms to guide gender-linked conduct throughout the life course" (Bandura & Bussey, 1999). The different ways that men and women are socialized by society, and thus, experience the world can impact various psychosocial variables, such as motivation, self-efficacy, and enjoyment. These psychosocial variables could have a

direct impact on physical activity behaviors and warrant separate investigation to determine ways to increase these behaviors.

Previous research has been inconclusive in determining if gender makes a strong impact on psychosocial variables and physical activity. A meta-analysis on the motivational regulations of self-determination theory differences across genders was conducted by Guerin, Bales, Sweet, and Fortier (2012) and only small effect sizes were found for these differences. These findings suggest that there might not be noticeable differences in motivational scores for men and women related to exercise. Other studies, particularly those done with college students, have found significant differences in motivation for male and female college students in relation to physical activity.

Craft, Carroll, and Lustyk (2016) found differences in primary motivators in their male and female participants. Female participants were more likely to exercise for weight loss and toning, whereas male participants were more likely to exercise for enjoyment. Exercise was also the best predictor of quality of life measures among the male participants of the study, which was not the case for the female participants. Altun, Sozeri, and Kocak (2016) also noted similar differences in appearance motivation for female versus male college students, with females once again exercising for appearance and weight-related purposes more prevalently than male college students. In a more recent study on motivations and possible intervention strategies to increase muscle-strengthening activities in college students, motivation-focused interventions were found to increase muscle-strengthening activities in male students, however, a more public-health, instructional focus on capability and skills was needed to see the same changes in female students (Saidi & Branscum, 2019).

Given the lens of social cognitive theory of gender and the inconclusive findings of previous research, physical activity guidelines and interventions may be most useful when male and female individuals are studied as two separate populations. These two separate populations have unique characteristics, experiences, and focuses that make their engagement in physical activity nuanced. Since motivation, self-efficacy, and enjoyment could vary because of these nuances, additional studies examining the impact of these variables among men is needed during their transition from high school to college. In addition to motivation, self-efficacy, and enjoyment, the salience of body awareness and social physique anxiety in this age group may alter the experiences of male college students and should be explored alongside the other psychosocial variables.

Theoretical Basis

Self-Determination Theory. Self-Determination Theory (SDT) is used to understand and explain behavioral and motivational patterns in various activities of life, including exercise (Deci & Ryan, 1985). SDT posits that motivation consists on a spectrum from extrinsic to intrinsic motivation. Extrinsic motivators for physical activity exist with a locus of control outside of the individual, such as for reward, health benefits, aesthetics, etc. Participating in physical activity for the pure enjoyment or innate feeling of pleasure, on the other hand, relate to an internal locus of control, and thus, intrinsic motivation.

Research has shown that intrinsic motivation has the most positive impact on physical activity behaviors, especially in college students. Undergraduate students who reported higher intrinsic motivation participated in more physical activity than their extrinsically-motivated counterparts (Maltby & Day, 2001). Not only does this intrinsic

motivation support one-time physical activity participation, but in a review of self-determination studies over the last 40 years, Teixera, Carraca, Markland, Silva, and Ryan (2012) found that exercise adoption and maintenance were also positively affected by self-determined, intrinsic motivation. Focusing on enjoyment and intrinsic motivation could have a positive impact on physical activity participation and adherence for the college population.

Intrinsic motivation for physical activity has already been reported at a higher prevalence for male college students versus female college students (Egli, Bland, Melton, & Czech, 2011; Lauderdale et al., 2015). Enjoyment, challenge, and strength were listed as top motivators for these male students, whereas the female students noted maintaining good health, appearance, and weight management as top motivators. These results were further supported by Gao and Xiang (2008), who noted that enjoyment levels were higher in male college students during exercise than in female college students. Self-determined, intrinsic motivation has been documented to lead to long-lasting physical activity behavior, possibly because extrinsic motivators are not enough to change unhealthy physical activity behaviors in these students (Lauderdale et al., 2015). Interventions that put the focus on increasing intrinsic motivation, such as through self-efficacy and enjoyment of activity, may be helpful in creating positive, long-term physical activity behaviors. The goal being that these behaviors carry on into adulthood.

Self-Efficacy Theory. Bandura's self-efficacy theory (1977) focuses on an individual's confidence in completing a desired task. Inclination to participate further or the decision to attempt to accomplish a task is based on this confidence, or self-efficacy.

High levels of self-efficacy for physical activity tends to lead to higher levels of motivation, adherence, and enjoyment related to physical activity (Sallis et al., 1986).

Self-efficacy theory is grounded in the following four factors that impact an individual's confidence: Mastery experiences, vicarious experiences, verbal persuasion, and physiological or affective states. While these factors contribute to feelings of self-efficacy, vicarious experience is particularly relevant to physical activity (Ashford, Edmunds, & French, 2010). Vicarious experience refers to how an individual perceives others similar to them doing a similar activity Vicarious experience may manifest itself for college-aged males in friends, co-exercisers, or exercise leaders.

The link between physical activity participation and self-efficacy among adolescents, college students, and adults is well established (McAuley & Blissmer, 2000). Higher levels of self-efficacy are related to higher levels of physical activity in 12-16 year olds (Hamilton, Warner, & Schwarzer, 2017). Both short and long- term increases in physical activity have been shown to be influenced by high self-efficacy (Oman & King, 1998). For example, in a study of 52 college students, researchers found that higher levels of self-efficacy were related to higher levels of physical activity adherence over an eight-week period (Sullum, Clark & King, 2000). In a similar study, increases in affect and feeling states post-exercise resulted from increased self-efficacy (McAuley, Blissmer, Katula, & Duncan, 2000). A more recent study of women, aged 18-71, indicated that strategies towards improving self-efficacy are impactful at increasing energy expenditure after a twelve-week intervention (Buckley, 2016).

Increasing self-efficacy may be a particularly important to target in order to increase physical activity among emerging adult males, although the best strategies for

success are unclear (Tang et al., 2018). Since a majority of research has focused on adults and adolescents separately, further research is needed among college students. Promoting self-efficacy can have strong implications for physical activity participation for this population.

Social Learning Theory and Modeling. In addition to his theory on self-efficacy, Bandura's social learning theory (1978) has been used to better understand physical activity adherence (Young, Plotnikoff, Collins, Callister, & Morgan, 2014). Observational learning refers to the concept that skills or knowledge can be developed through experiencing another person (a model) accomplish a task (Bandura, 1978). Model similarity, such as gender, is important to the participant's connection to the model performing the task (Gould & Weiss, 1981). Models can improve self-efficacy, interest, enjoyment, and performance in physical activity (Legrain, d'Arripe-Longueville, & Germain, 2003). The impact of physical activity modeling on self-efficacy has been extensively documented in previous studies (Lamarche & Gammage, 2010; Legrain, d'Arippe-Longueville, & Germain, 2003). Exercise class leaders can provide participants with model behaviors and characteristics that may support or hinder enjoyment and motivation for physical activity in these classes.

The Group Fitness Impact on Motivation, Self-Efficacy, and Enjoyment

Connection to models, such as class leaders, has been documented to increase motivation to participate in physical activity classes. Lamarche and Gammage (2010) investigated the impact of participating in a group fitness class instructed by a male or female instructor on self-efficacy among 87 college females. In this study, participants were randomized to a 30-minute exercise ball class with either a male instructor or

female instructor. Most variables within the class, including exercises, demonstrations, and motivation cues, were controlled across classes. Participants took various self-efficacy and social physique anxiety measures before and after the class. Gender of the exercise leader did not have a significant effect on self-efficacy; however, self-efficacy did increase from pre- to post-test, indicating that group fitness class participation potentially leads to increases in self-efficacy.

The positive impact of a group environment on exercise participation and enjoyment has also been documented in previous research (Burke, Carron, Eys, Ntoumanis, & Estabrooks, 2006: Loughead, Patterson, & Carron, 2011;Christensen, Schmidt, Budtz-Jorgensen, & Avlund, 2006). In a meta-analysis of 44 studies on group versus individual physical activity interventions, Burke et al. (2006) found that participating in an intact group leads to more enjoyment and adherence than participating in physical activity alone. Loughead, Patterson, and Carron (2011) demonstrated that working cohesively in an exercise class is more beneficial to physical activity enjoyment and affect than working independently or alone. The community and cohesion in these classes may help with physical activity adherence. Group cohesion, created by social composition, instructor ability, and activity type, can increase self-efficacy and confidence in physical activity (Christensen, Schmidt, Budtz-Jorgensen, & Avlund, 2006). In this study by Christensen et al., the experimental group that reported the highest levels of cohesion and positive group dynamics, also had the highest levels of self-efficacy after the intervention. Fraser and Spink (2001) also reported that strong levels of social support and group cohesion are significant predictors of exercise class attendance

and adherence in the forty-nine female participants of their community-based intervention.

The group experience could provide an environment conducive for male participants to increase their physical activity. Group fitness classes involve a social atmosphere and organized physical activity that may be particularly appealing to college students. Group fitness classes are commonly offered at collegiate recreation facilities and may increase physical activity adherence among college students. The social atmosphere of a group fitness class can make exercise more fun and enjoyable, but also increase adherence to participation. Social influencers, such as class leaders and co-exercisers, have a positive effect on exercise adherence, efficacy, and satisfaction in a wide variety of participants (Carron, Hausenblas, & Mack, 1996).

Regardless of format, intensity, and duration, the instructor has the opportunity to have a direct impact on the experiences of the participants. In a study of female college students, group fitness participation led to higher levels of enjoyment and commitment to exercise after a single class participation (Brown & Fry, 2013). In a study of Greek high school students, greater enjoyment, a positive motivational climate, and more time spent exercising was found in a group physical activity class intervention versus a control (Christodoulidis, Papaioannou, & Digelidis, 2001). These studies support the idea that group-based classes could have a positive impact on physical activity enjoyment, motivation, and self-efficacy.

Gender differences in the physical activity world play a significant role in the realm of physical activity motivation, self-efficacy, and enjoyment. Men tend to find stronger motivation in factors such as performance and self-confidence. Partridge,

Knapp, and Massengale (2014) reported increased levels of performance-related motivation in male Crossfit participants compared to their female counterparts whom had more focus on mastery-based motivation in group-based classes. In a study of male and female college students, females were significantly more likely to exercise for body satisfaction and self-esteem reasons than men (Tiggeman & Williamson, 2000). There is also a stronger drive for muscularity as a display of masculinity in males. Group-based exercise has been shown to be particularly enjoyable and lead to improvements in body composition for male adolescents (Wilson et al., 2012). The research continues to be scarce on male participation in group fitness settings, and thus warrants further research. A majority of the research on group fitness classes has been done with female college students and therefore, further research is needed to better understand how to increase motivation and self-efficacy among male college students.

Social Physique Anxiety

In addition to motivation, self-efficacy, and enjoyment, social physique anxiety could also be impacted by college student physical activity participation. The societal expectations of masculinity may contribute to men pursuing resistance and strength training (Howe, Welsh, & Sabiston, 2017) with the goal being to maintain muscularity and attractiveness (Allison et al., 2005). Exercising for health reasons is often seen as feminine or undesirable (Verdonk, Seesing, & de Rijk, 2010). Therefore, physical activity for these men can be related to the desire to build muscle. Strength-focused physical activity classes, as opposed to other health-focused classes, such as yoga or Zumba, may be attractive to the male population.

Participating in physical activity in public can be a vulnerable space for men and woman (Spink, 1992). While women tend to have higher levels of anxiety related to their bodies than men, men have been documented to express similar anxiety during exercise (Chu, Bushman, & Woodard, 2008). This anxiety, known as Social Physique Anxiety, refers to an individual's anxiety toward other's evaluation of their physical appearance (Hart, Leary, & Rajeski, 1989). This has been documented in most populations, but is especially relevant for college students (Chu, Bushman, & Woodard, 2008). As previously discussed, college-aged males often have a strong desire to build muscle in accordance with masculine expectations (Howe, Welsh, & Sabiston, 2017). This drive for muscularity has been linked to higher levels of social physique anxiety for these men (McCreary & Saucier, 2009). When levels of social physique anxiety are high, low self-esteem and high muscle dysmorphia are also high (Grieve & Helmick, 2008).

Social physique anxiety can be characterized by extrinsic factors, often related to higher public body awareness. When motivation to participate in physical activity is focused on these extrinsic factors, anxiety and depression, not enjoyment, may be the psychological outcome (Frederick & Ryan, 1993; Frederick & Morrison, 1996). This extrinsic motivation has been linked to exercise adherence for men (Frederick, Morrison, & Manning, 1996); however, it was not related to positive affect or enjoyment of activity, which could be a better predictor of long-term exercise participation.

The double-edged sword may exist given the relationship between social physique anxiety and exercise. Exercising for weight loss and increasing muscle tone may help to lower social physique anxiety. To do so, an individual will most likely have to participate in a public space. This public space, however, could be a trigger for social physique

anxiety in the first place. Within this environment, there are other factors that may alleviate the levels of social physique anxiety present in college-aged males. These factors include engaging in physical activity with other similar exercisers, the presence of a positive model, enjoyment of group-based physical activity, and the focus on increasing muscular strength.

Self-presentational and physique concerns may also be impacted by the gender of individuals we interact with in social situations. Interacting with individuals of the opposite gender has been related to increased self-presentational motives and nervousness when compared to interacting with the same gender (Leary, 2004). In the college setting, females have noted higher levels of social physique anxiety and body-related shame when interacting with males compared with interactions with other females (Calogero, 2004). This increased stress and anxiety is typically attributed to the desire to create a good impression on the opposite gender for social and sexual purposes (Leary & Kowalski, 1995). For men participating in group-based exercise, the chances of engaging with members of the opposite gender are high, whether it is the instructor or other participants in class. This engagement could be related to higher levels of social physique anxiety.

The Impact of Group Fitness on Social Physique Anxiety

Only a few studies have investigated changes in motivation and social physique anxiety during group-based exercise sessions (Bartlewski, Van Ralte, & Brewer, 1996; Lamarche & Gammage, 2010). In a study among female college students who were enrolled in a university-based physical activity course, social physique anxiety was reduced after 10 weeks of aerobics class participation (Bartlewski, Van Ralte, & Brewer,

1996). In this intervention study, researchers compared social physique anxiety and body esteem scores before and after participants were randomized into a ten-week aerobic exercise course or a social psychology course. Scores in the social psychology course were relatively unchanged, while scores were lower for those who took the aerobics class. The researchers attributed this decrease in anxiety to familiarity with the exercise setting and potential changes in body anthropometrics because of the course. Given the potential changes in the college setting and aerobics courses over the past 20 years, newer research is warranted to determine if this relationship still holds true. In addition, one-time experimental impact has not been studied nor has research been conducted on college aged males. Further investigation is needed to determine any potential impact that participating in group-based physical activity has on male college students.

The group fitness leader is positioned in the front of the room, often on a stage, giving directions, cues, and attempting to motivate attendees. This positioning may influence how participants feel about their physique and other psychosocial variables. Most directly, Lamarche and Gammage (2010) measured Social Physique Anxiety scores among college-aged females after participating in a group-based exercise class instructed by either a female or male instructor. Details of this study were discussed earlier in regard to the self-efficacy results of the study. In addition to examining self-efficacy impact, the researchers found that there was no effect of instructor gender on social physique anxiety, but overall the social physique anxiety levels significantly decreased after participating in the class.

The gender distribution of the group fitness class may also have an impact on social physique anxiety. Women, especially with high social physique anxiety levels,

have been found to be more aware of other males in the physical activity environment and prefer all-female classes to co-ed (Eklund & Crawford, 1994). For example, Kruisselbrink, Dodge, Swanburg, and MacLeod (2004) examined social physique anxiety levels in participants who imagined themselves participating in all-female, all-male, and mixed-sex group fitness classes. Participants were given the Social Physique Anxiety Scale (SPAS) measure before and after they imagined themselves participating in a class with either all female, male, or an even mix of male and female co-exercisers.

Female participants had higher levels of social physique anxiety levels when they imagined themselves surrounded by all-male and co-ed classes compared to all-female classes. The researchers did not find significant increases or decreases in social physique anxiety among the male participants. Given the apparent differences between imagined and actual participation in a group-based fitness class, it is worthwhile to create a similar study that investigated actual participation. Research has been conducted on examining the effect of group fitness class participation on social physique anxiety among women (Lamarche & Gammage, 2010), but this type of research has not been conducted on men. Further investigation is needed to better understand the impact that group fitness class participation and gender distribution has on social physique anxiety among college males.

Summary

College students are at a high risk for developing unhealthy behaviors, such as physical inactivity, as they transition from high school to college (Nelson et al., 2008). Strategies targeting motivation, self-efficacy, and enjoyment could help to increase physical activity levels, particularly in college-aged males. Group-based physical activity has been extensively documented to positively impact these psychosocial variables

(Burke et al., 2006: Loughead, Patterson, & Carron, 2011; Christensen et al., 2006), and further research is needed to identify specific effects on college males. In addition to participation in group-based physical activity, the gender of the activity leader may lead to increased motivation, enjoyment, and self-efficacy based on social learning theory (Lamarche & Gammage, 2010; Legrain, d'Arippe-Longueville, & Germain, 2003). While the benefits of the group environment may be positive, social physique anxiety could deter male students from participating in group-based physical activity. Examining how group fitness classes can increase motivation, self-efficacy, enjoyment, and social physique anxiety for college males may help better inform physical activity interventions targeted towards college-aged men.

Purpose and Hypotheses

Study Rationale

This study addressed the following gaps in the literature regarding group fitness participation and motivation, self-efficacy, enjoyment, and social physique anxiety among college-aged males. Specifically this study replicated and extended the study by Lamarche and Gammage (2010) with male college students.

1. Although the gender of the group fitness instructor had no effect on female participants in one study (Lamarche & Gammage, 2010), a similar study has not been conducted among males.
2. Participating in a group fitness class had a positive effect on lowering social physique anxiety scores for college women (Lamarche & Gammage, 2010) but this has not been examined among males.

3. Group fitness participation was related to higher levels of enjoyment and commitment to exercise after a single class participation for college-aged females (Brown & Fry, 2013). A similar study has not been conducted with college males.

Specific Aims and Hypotheses

Specific Aim 1. To investigate if gender of the group fitness leader affects motivation, enjoyment, self-efficacy, or social physique anxiety from pre- to post-physical activity.

Related Hypothesis. Participants randomly assigned to the male-led group fitness class will report higher scores on motivation, self-efficacy, and enjoyment than those randomly assigned to the female-led fitness class. Participants randomly assigned to the female-led group fitness class will report higher scores on social physique anxiety than those randomly assigned to the male-led fitness class.

Specific Aim 2. To investigate if participating in a group-based fitness class can increase motivation, self-efficacy, and enjoyment of physical activity, and lower social physique anxiety among male college students, regardless of instructor.

Related Hypothesis. Scores on motivation, enjoyment, and self-efficacy for physical activity will significantly increase from pre- to post-test after participating in a group fitness class. Social physique anxiety scores will significantly decrease from pre- to post-test after participating in a group fitness class.

Method

Participants

Participants were recruited from undergraduate Kinesiology classes and at a Recreation and Wellness Center at a large, public, Midwestern university. The inclusion

criteria for the study were participants 18-25 years old, self-identify as male, and be able to participate in a physical activity class for 60 minutes. Students who expressed interest were sent an email that outlined the research briefly (see Appendix A), described the inclusion criteria, and stated the incentive for participation. Participants were told about the potential negative health behaviors associated with transitioning to college, and how group fitness could positively impact these health behaviors. Fifty-six college-aged males responded to the email confirming inclusion requirements were met, and were then considered for participation. Thirty-five of these potential participants (62%) completed the study. The primary reason for not participating was schedule conflicts with the group fitness classes. Other reasons for not participating included injury or moving away from the university location. The final sample (N=35) ranged in age from 18-25 (M= 21.7, SD=1.9). Participants mostly identified as straight/heterosexual (74%). Participants engaged in moderate to vigorous activity between one to seven days per week, for an average of 3.7 days per week (SD = 1.31). This study was approved by the university's Institutional Review Board and occurred from September 2018 to March 2019.

Design

A 2X2 study design (Group x Time) was employed. Participants were randomized upon recruitment to attend a fitness class that was led by a male or female instructor. Participants chose one of nine available weekly classes, which averaged between 20-30 total participants in each class. Questionnaire data were collected immediately before and immediately following class participation.

Measures

Participants were asked to complete a series of questionnaires before and after participation in the group fitness class. The measures included demographic information, motivation for physical activity, physical activity enjoyment, physical activity self-efficacy scale, and social physique anxiety.

Demographics. Participants completed questions about demographics including age, gender identity, sexual orientation, and average physical activity minutes per week.

Motivational Orientation. In order to determine whether participants were intrinsically or extrinsically motivated to engage in physical activity, participants were administered the Motivation for Physical Activity questionnaire (Deci & Ryan, 2004). The 16 items followed the stem question, "I try, or would like to try, to be physically active regularly because…" (See Appendix C). The participants then rated how true the statement was on a scale of 1-7. Examples included "because I enjoy physical activities" or "because I would feel like a failure if I did not." Responses for all 16 items were scored or reverse scored, and an average score of one to seven was calculated for each participant, pre-and post-test. Scores that were closer to one represented a greater orientation towards intrinsic or self-determined motivation, while scores closer to seven represented greater orientation towards extrinsic or controlling motivation. No studies have validated this measure in college-aged males participating in physical activity.

Physical Activity Enjoyment. Participants completed the Physical Activity Enjoyment Scale (PACES), which assesses level of enjoyment derived from physical activity (Kendzierski & DeCarlo, 1991). The questionnaire includes 18 items on a seven-point scale and required participants to decide how a phrase describes their disposition about physical activity; 1 indicating Strongly Disagree, 7 indicating Strongly Agree. For

example, one item includes “I enjoy it” and another included “I feel bored.” Seven items were reversed scored and averaged for analysis with the other 11 items (see Appendix D). Higher scores referred to more enjoyment in physical activity. This measure showed high internal consistency reliability and moderate to high test-retest reliability during bouts of moderate to high intensity physical activity (Kendzierski & DeCarlo, 1991).

Self-Efficacy. Physical activity self-efficacy was measured using the 16-item Physical Activity Self-Efficacy scale (Bandura, 2006). Participants were asked to respond to a series of situations based on the question, “How confident are you to exercise in the following situations?” (See Appendix E). Answers were given on a five-point scale ranging from “Not at all Confident” to “Extremely Confident.” Example situations included, “when I am feeling tired” or “when I am feeling pressure from work.” Total scores were averaged for analysis. Scores closer to five represented higher self-efficacy related to physical activity.

Social Physique Anxiety. Participants completed the 12-item Social Physique Anxiety Scale (SPAS; Hart, Leary, & Rejeski, 1989). Participants were given a statement related to their physique and asked to determine the degree to which the characteristic was similar to them (see Appendix F). Participants rated this similarity on a 5-point scale ranging from “Not at All” to “Extremely Characteristic of Me.” Example statements included, “I am comfortable with the appearance of my physique or figure” and “I wish I wasn't so uptight about my physique or figure.” A total score was averaged. High test-retest and internal consistency reliability has been previously demonstrated with this measure (Hart, Leary, & Rejeski, 1989).

Procedure

Participants responding to the recruitment email and who were eligible were randomized 1:1 by the lead researcher to either a male-led or female-led instructor group fitness class. Randomization was based on a random numbers table generated in SPSS. Participants were immediately randomized because the participation dates and times depended on which group the participant was randomized to. Participants were then emailed the consent form and a choice to attend one of nine weekly sessions to attend at the university's recreation center. Participants were briefed on the expectations of their participation and appropriate attire to wear during their exercise session. They were informed that they could stop participation at any time. Participants were told that the purpose of this study was to evaluate the impact of participating in group fitness classes for college-aged men, but were not told further details about their instructor. These group fitness classes were open to the public and part of the University Recreation and Wellness Center's weekly offerings. Participants did not pay to participate in the class.

Upon arrival to the recreational center for their session, participants were given access to the facility and escorted by the lead researcher to the session location. A brief tour of necessary spaces was conducted and any questions about the study were answered. The participants then completed the digital pre-class questionnaires on their own personal electronic device or on one provided by the lead researcher in the hallway adjacent to the group fitness studio. Participants used a research ID number assigned by the lead researcher to keep their identity anonymous. Completing the required questionnaires took participants approximately ten minutes. After completing the questionnaires, the lead researcher introduced the participants to the group fitness

instructor who would be leading their class. Participants were only introduced to the instructor of their own class.

Participants then participated in a strength-based group fitness class that lasted approximately 60 minutes with either a male or female instructor. The class included strength, cardiovascular, and core training components. The participants were able to take breaks or stop participation at any point, as is typical in any fitness class. Following the completion of the class, the lead researcher once again met with the participants to complete the digital post-class questionnaires. One participant was randomly selected and given a $50 gift card of his choice at the conclusion of the study. At the end of the study, the survey data were transferred to a spreadsheet to ensure accuracy and identifying information was removed.

Data Analysis

The lead researcher performed descriptive analyses of the demographic questionnaires (age, sexual orientation, and average weekly physical activity). Internal consistency reliability was calculated for each of the measures at pre- and post-test. A 2X2 (Group by Time) repeated measures analysis of variance (ANOVA) was also conducted on each of the measures to examine the hypotheses that participating in a male- or female-led group fitness class will increase motivation, self-efficacy, and physical activity enjoyment, and lower social physique anxiety.

Results

Internal consistency reliability is reported in Table 1. Using a threshold of α = 0.60, all questionnaires, and therefore all variables, were deemed reliable and included for the final analysis (George & Mallery, 2003).

Table 1

Internal Consistency Reliability for Motivation, Self-Efficacy, Enjoyment, and Social Physique Anxiety Questionnaires, Pre- and Post-Test (N=35)

Scale	Items	Cronbach's α Pre-Test	Cronbach's α Post-Test
Motivation	16	.62	.75
Self-Efficacy	5	.74	.69
Enjoyment	18	.89	.90
SPA	12	.82	.88

Note: SPA= Social Physique Anxiety

Aim 1: Effect of Instructor Gender on Motivation, Self-Efficacy, Enjoyment, and Social Physique Anxiety

The interaction effect of instructor gender on each of the dependent variables (motivation, self-efficacy, enjoyment, and social physique anxiety) is summarized in Table 2. A series of 2x2 repeated measures ANOVA's were conducted and no statistically significant interactions or main effects emerged.

Table 2

Interaction Effect of Instructor Gender on Motivation, Self-Efficacy Enjoyment, and Social Physique Anxiety

Variable	n	*F*	*p*
Motivation	35	1.774	0.346
Self-Efficacy	35	0.091	0.765
Enjoyment	35	0.881	0.355
SPA	35	0.609	0.441

Note: SD=Standard Deviation, SPA=Social Physique Anxiety

The main time effect on each of the dependent variables (motivation, self-efficacy, enjoyment, and social physique anxiety) is summarized in Table 3. A series of 2x2 repeated measures ANOVA's were conducted and no statistically significant interactions or main effects emerged.

Table 3

Main Effect of Instructor Gender on Motivation, Self-Efficacy, Enjoyment, and Social Physique Anxiety

Variable	n	Pre-Test *M (SD)*	Post-Test *M (SD)*	*F*	*p*
Motivation					
Male Instructor	13	1.96 (0.53)	1.64 (0.64)	1.840	.184
Female Instructor	22	1.77 (0.54)	1.98 (0.53)		
Self-Efficacy					
Male Instructor	13	2.85 (0.57)	2.88 (0.44)	2.083	.158
Female Instructor	22	3.24 (0.88)	3.24 (0.86)		
Enjoyment					
Male Instructor	13	5.02 (0.72)	5.11 (0.71)	4.665	.078
Female Instructor	22	5.55 (0.90)	5.79 (0.86)		
SPA					
Male Instructor	13	2.43 (0.89)	2.20 (0.82)	0.057	.812
Female Instructor	22	2.30 (0.89)	2.19 (0.85)		

Note: SD=Standard Deviation, SPA=Social Physique Anxiety.

Aim 2: Does Participating in a Group-based Fitness Class Increase Psychosocial Variables of Physical Activity

Results from the repeated measures ANOVA examining increases in motivation, self-efficacy, enjoyment, and social physique anxiety from pre- to post-test is summarized in Table 4. Scores on the measure of enjoyment significantly increased from pre- to post-test, while scores for social physique anxiety significantly decreased. There were no significant increases for the other variables from pre- to post-test.

Table 4

Pre- to Post-Test Effect on Motivation, Self-Efficacy, Enjoyment, and Social Physique Anxiety

Variable	n	Pre- *M (SD)*	Post- *M (SD)*	*F*	*p*	d_{Cohen}
Motivation	35	1.84 (0.53)	1.77 (0.62)	0.915	.346	
Self-Efficacy	35	3.10 (0.80)	3.10 (0.74)	0.091	.765	
Enjoyment	35	5.35 (0.87)	5.54 (0.86)	4.500	.041*	.22
SPA	35	2.35 (0.85)	2.19 (0.89)	4.836	.035*	- .18

Note: SD=Standard Deviation, SPA= Social Physique Anxiety. *p < 0.05.

Discussion

The purpose of the current study was to investigate the effect of instructor gender on college-aged males' motivation, self-efficacy, enjoyment, and social physique anxiety. Additionally, the effect of group fitness class participation on these variables was also examined. Participants were randomized into classes that included either a male or female instructor to examine the effect of the gender of the instructor on the dependent variables. The results mostly did not support the research hypotheses, about gender of the instructor and effect on psychosocial variables.

Aim 1: Effect of Instructor Gender on Motivation, Self-Efficacy, Enjoyment, Social Physique Anxiety

The primary hypothesis that instructor gender would impact motivation, self-efficacy, enjoyment, and social physique anxiety of the group fitness class was not supported by the results. Specifically, there was no effect of instructor gender on motivation, self-efficacy, enjoyment, or social physique anxiety. The lack of instructor gender impact on male participants is consistent with previous research which also did not find this effect among female group fitness participants (Lamarche & Gammage, 2010). This finding may suggest that, while model similarity is an important aspect of

observational learning effects (Gould & Weiss, 1981), the gender of a group fitness instructor may not have an impact on the psychosocial variables of motivation, self-efficacy, enjoyment, or social physique anxiety for college-aged males during a single class experience. Other aspects of the model-participant interaction, such as motivational cues and the words an instructor uses during class (Engeln, Shavlik, & Daly, 2018), could have a stronger impact on the psychosocial variables investigated in the present study.

Aim 2: Does Participating in a Group-based Fitness Class Increase Psychosocial Variables of Physical Activity

The results of the present study partially supported the hypothesis that participating in a group fitness class would increase motivation, self-efficacy, and enjoyment, while decreasing social physique anxiety among college-aged males. A statistically significant but small effect size was found for pre- to post-test scores on the PACES, suggesting that enjoyment of physical activity increased from pre- to post-class participation. This result supports previous research that participating in a group setting may boost enjoyment levels among participants (Burke et al., 2006; Brown & Fry, 2013). Further research is needed to determine if this effect is sustainable over time, since the current study was a one-time manipulation. In addition, understanding which aspects of the group fitness class had the greatest impact on enjoyment levels could be assessed.

Contrary to the research hypothesis, there was no significant increase from pre-to post-test on motivation or self-efficacy for physical activity after participation in the group fitness class. A possible reason for this lack of support is that motivation and self-efficacy have been previously shown to improve over a longer period of time (Wilson et

al., 2012). A one-time manipulation may not have created enough exposure to cause a significant effect in the current study.

Pre- to post-test scores on social physique anxiety decreased across both groups. The social environment of group fitness classes have been shown in previous research to contribute to high levels of social physique anxiety in public places (Spink, 1992). Since there was a significant decrease in social physique anxiety in this study, the effect of group fitness class participation on social physique anxiety could be positive for college-aged males. This finding is consistent with previous research (Bartlewski, Van Ralte, & Brewer, 1996) finding that social physique anxiety decreased after ten weeks of exercise class participation. It is important to note that both groups in this study reported decreases in social physique anxiety and therefore, it is possible that other confounding factors such as simply being in a group setting led to decreases in social physique anxiety. Additional studies with control groups are needed to further examine this finding.

It is important to note that participants in the present study participated in a strength-based group fitness class rather than a cardiovascular, dance, or mind-body class. Social physique scores may be differently affected after a fitness class that does not focus on muscularity, such as yoga, Pilates, or Zumba™. Since group-based physical activity and social physique anxiety have only been minimally explored in college males, more investigation would help answer these questions.

Instructor gender did not have a significant effect on social physique anxiety, which is consistent with another study among college women (Lamarche & Gammage, 2010). This finding suggests that other aspects of a physical activity model may be more important for impacting social physique anxiety, such as age, level of expertise, body

type, or personality. Since none of these characteristics were controlled for in the present study, it is not possible to draw conclusions regarding these characteristics. Future qualitative studies may help to better understand other possible contributors to connection with models. Since it is difficult to control for all model characteristics, such as age, body type, experience, interviewing participants to gain insight into the aspects of an instructor who they felt were important may produce more informative results than quantitative studies attempting to control for these variables.

Strengths of the Study

The present study adds to the literature by investigating the impact of a group-based exercise class on physical activity motivation, self-efficacy, enjoyment, and social physique anxiety among the college male population, which has received limited attention in previous studies. Most of the previous research has focused on female group fitness participants. Investigating the male perspective can help researchers understand similarities and differences between the two populations. In addition, focusing on the emerging adult male population has not been thoroughly investigated, and this study contributed to the knowledge of this key developmental period.

Limitations

There were several limitations to the current study. First, the use of a one-time experimental design is considered a limitation of the present study. A single, 60-minute session may not be an adequate dosage to see any significant and lasting impact on any of the psychosocial variables used in this study.

Participants engaged in on average, 30 minutes of moderate to vigorous physical activity each day, for 3.7 days per week. Therefore, these participants already had an

affinity to exercise and were comfortable with the exercise environment. Previous physical activity participation also varied significantly (one to seven days per week of at least 30 minutes of moderate to vigorous activity). Because this spread was so vast, it is difficult to assess whether previous physical activity levels had an impact on the dependent variables of the current study.

The small sample size, which was most impacted by the limited classes and schedule conflicts, may have also impacted the results and power for the study. It was very difficult to recruit male participants for the study. Understanding male students' attitudes and assumptions about group fitness classes could help future researchers recruit male participants for similar studies. Furthermore, while the participants all participated in the same type of class format, it was not possible to have all study participants in the same class. Therefore, components of the classes, such as music and exercise choice, may have varied from class to class. The instructor's cues and motivational phrases were also not controlled for in the current study, which could have had a confounding effect on the variables of the current study. Finally, the Motivation Orientation Scale has not been validated in previous research studies, which may have impacted the measurement of intrinsic and extrinsic motivation in this study. The use of a validated and updated scale could have produced more accurate and reliable measures of motivation among participants in the current study.

Future Studies

Given the limitations of the current study, further investigation is warranted that examines the effect of group fitness classes on physical activity levels of college-aged males. Studies at multiple types of university and community settings may add to a better

understanding of changes in motivation, self-efficacy, enjoyment, and social physique anxiety that was not investigated in the current study. For example, future studies may find that students who attend smaller schools may have stronger connections to other students who they attend class with and thus, have higher levels of enjoyment or self-efficacy.

The participants took part in a strength-based group fitness class, which previous research has shown to be of most interest for this population (Howe, Welsh, & Sabiston, 2017). Participating in other types of group fitness classes, such as Indoor Cycling or Yoga, may have affected the psychosocial variables differently than the current study. Cue types, motivational phrases, and instructor attire have also been impactful for affecting the psychosocial variables at play during a group fitness class. Future studies may focus on controlling for these variables in their assessment of changes to motivation, self-efficacy, enjoyment, and social physique anxiety. Participation during this study was also limited to a single group fitness class. Further research investigating the potential impact of a six- to ten-week group fitness course, as previous research has supported (Bartlewski, Van Ralte, & Brewer, 1996), may be more likely to see an effect on the dependent variables than the current study.

While the demographics of other class participants was not collected in the present study, additional research could be done to explore if attending all-male or all-female classes has any effect on male participants, as it did for female participants. The classes that participants attended in the current study were a mixture of male and female participants. As discussed earlier, previous research by Kruisselbrink et al. (2004) showed the potential impact of the class gender composition on social physique anxiety

in an imagined setting. Participants in the study imagined participating in an all-male, all-female, or co-ed group fitness class. Female participants reported lowest social physique anxiety scores in classes that were imagined to be all-female.

Lastly, the only component of model similarity explored in the present study was instructor gender. Since there are other identifiers and possible characteristics that could impact psychosocial variables of physical activity in college males, further research examining variables such as age, level of experience, body type, or task/ego involvement tactics should also be explored to determine how models in the group fitness realm can impact their participants' motivation, self-efficacy, enjoyment, and social physique anxiety. Also, since enjoyment levels increased as a result of the current study, further research could investigate which aspects of the group fitness class best contributed to this increased enjoyment. Understanding the key contributors to this enjoyment could inform practitioners about strategies to create better environments for male college students to engage in group-based physical activity.

Practical Application

College-aged males have been documented to decrease their physical activity as they transition from high school to college (Bray & Born, 2004). The current study demonstrated that participating in group-based exercise classes can improve physical activity enjoyment, which has been shown to be related to physical activity adherence (Burke et al., 2006). The social atmosphere could create a positive environment for college males to increase their physical activity participation levels in a comfortable and educational setting. College recreation centers should focus on marketing and recruiting male students to participate in group fitness classes. Since instructor gender did not have

a significant impact on the psychosocial variables of this study, special attention need not be given to which classes target these male students. The low cost and easy accessibility of these classes provide the perfect environment for male students to increase their physical activity levels and find classes that they can continue to participate in, even after the stressful years of college are over.

Conclusion

Male physical activity levels have been documented to decrease during the years of transition from high school to college, putting this population at risk for various negative health consequences such as cardiovascular disease and obesity. Understanding psychosocial variables related to physical activity, such as motivation, self-efficacy, and enjoyment, could bring insight into strategies to help combat inactivity. Given the previously documented gender differences between male and female college students and the plethora of previous research done on female college students, the current study looked at the possibility of group fitness classes aiding in improving the psychosocial variables of physical activity, including motivation, self-efficacy, enjoyment, and social physique anxiety. Physical activity enjoyment and social physique anxiety changed significantly from pre- to post-test for participants. Instructor gender had no impact on the dependent variables of the study. Additional research is needed to identify what, if any, aspects of the group fitness class lead to the increases in enjoyment and decreases in social physique anxiety in order to develop environments best suited for group-based physical activity participation among college males.

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Appendix A

Recruitment Letter

Hello,

My name is Ben Kohler and I am a Masters' student within the School of Kinesiology. I am emailing you today to gauge your interest in participating in a University study (Study IRB Approval No.00002517)

Regular participation in physical activity and nutritious eating behaviors is vital to a healthy lifestyle. Indeed, research has shown that regular physical activity participation results in improved health outcomes. However, college students are at risk for low participation in physical activity. Participation in Group Fitness classes could help to combat this risk and help college students contribute to their weekly exercise recommendations.

The purpose of this study is to evaluate the impact of participating in Group Fitness classes for college-aged men (18-25 years old). You will be asked to participate in 1, 60 minute Group Fitness class. Upon completion of the class and necessary questionnaires, you will be entered to win a $50 gift card of your choice. Think this study is for you? See the participant requirements below.

Participant requirements:

- 18-25 years old
- Male
- Able to read, speak, and comprehend English
- No diagnosed physical/mental disability
- Is willing to be randomized into either an intervention or comparison group, provides informed consent, and complete necessary pre- and post-class questionnaires.

Interested? Please contact:
Ben Kohler
University of Minnesota
Phone: 612-626-4400
Email: kohle135@umn.edu

Appendix B

Consent Form

Title of Research Study: The Impact of Instructor Gender on Exercise Class Motivation in Emerging Adult Men

Researcher Team Contact Information:

For questions about research appointments, the research study, research results, or other concerns, call the study team at:

Researcher Name: Ben Kohler Researcher Affiliation: University of Minnesota Phone Number: 612-626-4400 Email Address: kohle135@umn.edu	Study Staff: Beth Lewis Ph. D Phone Number: 612-625-0756 Email Address: blewis@umn.edu

Supported By: This research is supported by The University of Minnesota.

Why am I being asked to take part in this research study?

We are asking you to take part in this research study because you responded to our advertisement and you met the eligibility requirements for the study. We ask that you read this form and ask any questions you may have before you decide whether or not you want to be in the study.

What should I know about a research study?

- Someone will explain this research study to you.
- Whether or not you take part is up to you.
- You can choose not to take part.
- You can agree to take part and later change your mind.
- Your decision will not be held against you.
- You can ask all the questions you want before you decide.

Why is this research being done?

The purpose of this study is to examine the impact of Group Fitness class participation on motivation to participate in physical activity for college-aged males.

How long will the research last?

Participants will be randomly assigned to a Group Fitness class and will take part in 1, 60-minute Group Fitness class. The participants will also be asked to spend 30 minutes completing pre-class questionnaires and 30 minutes completing post-class questionnaires.

How many people will be studied?

We expect about 60 people will be in this research study.

What happens if I say "Yes, I want to be in this research"?

If you agree to be in this study, we would ask you to do the following things:
First, you will complete the forms indicated. Specifically this includes electronically signing this consent form and answering the questionnaires. Once we receive consent, we will contact you over the telephone or via email to schedule a Group Fitness class for you to attend, The assignment to each class is completely random, but will also depend on your availability. You will be asked to bring along your own computer to the class and spend 30 minutes prior to class filling out pre-class questionnaires. The group will then participate in a 60-minute strength and cardio based Group Fitness class, lead by a nationally-accredited and certified instructor. Following class, you will be asked to spend 30 minutes filling out post-class questionnaires. Upon successful completion of these questionnaires, you will be entered to win a $50 gift card of your choice.

What happens if I do not want to be in this research?

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with The University of Minnesota.

What happens if I say "Yes", but I change my mind later?

If you decide to participate in this study, you are free to not answer any questions or withdraw at any time without affecting your current or future relations with The University of Minnesota.

What are the risks of being in this study? Is there any way being in this study could be bad for me?

This study has several risks. First, you may find exercising uncomfortable. Second, it is possible that you could experience injuries, such as sprains, while exercising. Precautions should be taken to avoid injuries. Third, heart attack and sudden death related to heart problems have been known to occur in people while they are exercising. However, this is extremely rare. If an injury or change in medical status occurs during the study, please contact your exercise instructor immediately. In addition to these risks, this research may hurt you in ways that are unknown. These may be a minor inconvenience or may be so severe as to cause death.

Will it cost me anything to participate in this research study?

Taking part in this research study will not lead to any costs to you.

Will being in this study help me in any way?

We cannot promise any benefits to you or others from your taking part in this research. However, possible benefits may include improvement in overall health as regular

exercise has been associated with reduced risk of heart disease, stroke, some types of cancer, and obesity.

What happens to the information collected for the research?

Efforts will be made to limit the use and disclosure of your personal information, including research study and medical records, to people who have a need to review this information. We cannot promise complete secrecy. Organizations that may inspect and copy your information include the IRB and other representatives of this institution. We will not ask you about child [or elder] abuse, but if you tell us about child [or elder] abuse or neglect, we may be required or permitted by law or policy to report to authorities.

Who do I contact if I have questions, concerns or feedback about my experience?

This research has been reviewed and approved by an Institutional Review Board (IRB) within the Human Research Protections Program (HRPP). To share feedback privately with the HRPP about your research experience, call the Research Participants' Advocate Line at 612-625-1650 or go to https://research.umn.edu/units/hrpp/research-participants/questions-concerns. You are encouraged to contact the HRPP if:

- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You want to talk to someone besides the research team.
- You have questions about your rights as a research participant.
- You want to get information or provide input about this research.

Will I have a chance to provide feedback after the study is over?

The Human Research Protection Program may ask you to complete a survey that asks about your experience as a research participant. You do not have to complete the survey if you do not want to. If you do choose to complete the survey, your responses will be anonymous.

If you are not asked to complete a survey, but you would like to share feedback, please contact the study team or the Human Research Protection Program (HRPP). See the "Researcher Contact Information" of this form for study team contact information and "Who do I contact?" of this form for HRPP contact information.

Will I be compensated for my participation?

If you agree to take part in this research study, we will enter you into a random drawing where one participant will receive a $50 gift card of their choice.

Appendix C

Motivation for Physical Activity and Exercise (Deci & Ryan, 2004)

Using the rating scale (1-definitely false to 7-definitely true), please rate how accurate each completion of the following statement is for you.

"I try, or would like to try, to be physically active regularly..."

1. …because I would feel bad about myself if I did not.
2. …because others would be angry at me if I did not.
3. …because I enjoy physical activities.
4. …because I would feel like a failure if I did not.
5. …because I feel as if it's the best way to help myself.
6. …because people would think I'm a weak person if I did not.
7. …because I feel as if I have no choice about being active; others make me do it.
8. …because it is a challenge to accomplish my goal.
9. …because I believe physical activity helps me feel better.
10. …because it's fun.
11. …because I worry that I would get into trouble with others if I did not.
12. …because it feels important to me personally to accomplish this goal.
13. …because I feel guilty if I am not regularly active.
14. …because I want others to acknowledge that I am doing what I have been told I should do.
15. …because it is interesting to see my own improvement.
16. …because feeling healthier is an important value for me.

Appendix D

PACES: Physical Activity C and Enjoyment Scale (Kendzierski and DeCarlo, 1991)

Please rate how you feel at the moment about physical activity. Below is a list of feelings with respect to physical activity. For each feeling, please choose the number that best describes you (1-Strongly Disagree, 7-Strongly Agree).

1. I enjoy it.
2. I feel bored.
3. I dislike it.
4. I find it pleasurable.
5. I am very absorbed in physical activity.
6. It's no fun at all.
7. I find it energizing.
8. It makes me depressed.
9. It's very pleasant
10. I feel good physically while doing it.
11. It's very invigorating.
12. I am very frustrated by it.
13. It's very gratifying.
14. It's very exhilarating.
15. It's not at all stimulating.
16. It gives me a strong sense of accomplishment.
17. It's very refreshing.
18. I felt as though I would rather be doing something else.

Appendix E

Physical Activity Self-Efficacy Scale (Bandura, 2006)

Choose the response that best indicates how confident you are that you would exercise in each of the following situations (1=not confident at all, 5=extremely confident).

1. When I am tired.
2. When I am feeling under pressure from work.
3. After recovering from an injury
4. During or after experiencing personal problems
5. When I am feeling depressed
6. When I am feeling anxious
7. After recovering from an illness
8. When I feel physical discomfort when exercising
9. After a vacation
10. When I have too much work to do at home
11. When visitors are present
12. When there are other interesting things to do
13. If I don't reach my exercise goals
14. Without support from my family or friends
15. When I have other time commitments
16. After experiencing family problems

Appendix F

Social Physique Anxiety Scale (Hart, Leary, and Rejeski, 1989)

Read each item carefully and indicate how characteristic it is of you according to the scale 1-Doesn't Describe Me at All, 5-Describes Me Extremely Well.

1. I am comfortable with the appearance of my physique or figure.
2. I would never worry about wearing clothes that might make me look too thin or overweight.
3. I wish I wasn't so uptight about my physique or figure.
4. There are times when I am bothered by thoughts that over people are evaluating my weight or muscular development negatively.
5. When I look in the mirror, I feel good about my physique or figure.
6. Unattractive features of my physique or figure make me nervous in certain social settings.
7. In the presence of others, I feel apprehensive about my physique or figure.
8. I am comfortable with how fit my body appears to others.
9. It would make me uncomfortable to know others were evaluating my physique or figure.
10. When it comes to displaying my physique or figure to others, I am a shy person.
11. I usually feel relaxed when it's obvious that others are looking at my physique or figure.
12. When in a bathing suit, I often feel nervous about how well-proportioned my body is.